SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Physical state : Liquid
Substance name : BIS(TRIETHOXYSILYL)METHANE
Product code : SIB1821.0
Formula : C13H32O6Si2
Synonyms : 4,4,6,6-TETRAETHOXY-3,7-DIOXA-4,6-DISILANONANE
Chemical family : ORGANOETHOXYSILANE

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate
For research and industrial use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

GELEST INC.
Stroofstrasse 27 Geb.2901
65933 Frankfurt am Main
Germany
T +49-(0)-69-3800-2150 - F +49-(0)-69-3800-2300 - (M-F): 8:00 AM - 5:30 PM
info@geleste.de - www.geleste.de

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute toxicity (oral), Category 3 H301
Acute toxicity (dermal), Category 4 H312
Serious eye damage/eye irritation, Category 2 H319

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) :

Signal word (CLP) : Danger
BIS(TRIETHOXYSILYL)METHANE
Safety Data Sheet

Hazard statements (CLP):
- H301 - Toxic if swallowed
- H312 - Harmful in contact with skin
- H319 - Causes serious eye irritation

Precautionary statements (CLP):
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P264 - Wash hands thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P330 - Rinse mouth
- P301+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards
Other hazards not contributing to the classification:
The hydrolysis product of bis(triethoxysilyl)methane is ethanol. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages. Additional ethanol may be formed by reaction with moisture and water. The US OSHA PEL (TWA) for ethanol is 1000 ppm.

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type: Mono-constituent
Name: BIS(TRIETHOXYSILYL)METHANE
CAS-No.: 18418-72-9

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(triethoxysilyl)methane</td>
<td>(CAS-No.) 18418-72-9</td>
<td>95 - 100</td>
<td>Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general:
Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation:
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

First-aid measures after skin contact:
Wash with plenty of soap and water.

First-aid measures after eye contact:
Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion:
Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/effects after inhalation:
May cause irritation to the respiratory tract.

Symptoms/effects after skin contact:
Harmful in contact with skin. May cause skin irritation.

Symptoms/effects after eye contact:
Causes serious eye irritation.

Symptoms/effects after ingestion:
Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
- Water spray
- Water fog
- Alcohol-resistant foam
- Carbon dioxide
- Dry chemical

Unsuitable extinguishing media:
- None known

5.2. Special hazards arising from the substance or mixture
Fire hazard:
Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
**5.3. Advice for firefighters**

**Firefighting instructions**: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

**Protection during firefighting**: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapour and mist.

---

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**6.1.1. For non-emergency personnel**

**Emergency procedures**: Evacuate unnecessary personnel.

**6.1.2. For emergency responders**

**Protective equipment**: Equip cleanup crew with proper protection.

**6.2. Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

**6.3. Methods and material for containment and cleaning up**

**Methods for cleaning up**: Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

**6.4. Reference to other sections**

See Heading 8. Exposure controls and personal protection.

---

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Precautions for safe handling**: Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Containers must be properly grounded before beginning transfer.

**Hygiene measures**: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage conditions**: Keep container tightly closed.

**Incompatible materials**: Oxidizing agent.

**Storage area**: Store in a well-ventilated place. Store away from heat.

**7.3. Specific end use(s)**

No additional information available

---

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

No additional information available

**8.2. Exposure controls**

**Appropriate engineering controls**: Provide local exhaust or general room ventilation.

**Personal protective equipment**: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary exposure.

**Hand protection**: Neoprene or nitrile rubber gloves

**Eye protection**: Chemical goggles. Contact lenses should not be worn

**Skin and body protection**: Wear suitable protective clothing

**Respiratory protection**: NIOSH-certified organic vapor (black cartridge) respirator.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>340.56 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.4098</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>114 - 115 °C @ 3.5 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 65 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 1 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.9741</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 5 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Reacts with water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur. Material decomposes slowly in contact with moist air or with water liberating ethanol.

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products


SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Oral: Toxic if swallowed. Dermal: Harmful in contact with skin.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>161 mg/kg (related product 1,2-Bis(triethoxysilyl)ethane oral toxicity data)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>1971 mg/kg (related product 1,2-Bis(triethoxysilyl)ethane dermal toxicity data)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation. Eye irritation - rabbit: mild irritation</td>
</tr>
</tbody>
</table>
**BIS(TRIETHOXYSILYL)METHANE**  
Safety Data Sheet

| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity            | : Not classified |
| Carcinogenicity                   | : Not classified |
| Reproductive toxicity             | : Not classified |
| STOT-single exposure              | : Not classified |
| STOT-repeated exposure            | : Not classified |
| Aspiration hazard                 | : Not classified |
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/effects after skin contact| : Harmful in contact with skin. May cause skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye irritation. |
| Symptoms/effects after ingestion  | : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. |
| Reason for classification         | : Expert judgment |

**SECTION 12: Ecological information**

**12.1. Toxicity**
- Acute aquatic toxicity : Not classified
- Chronic aquatic toxicity : Not classified

**12.2. Persistence and degradability**
No additional information available

**12.3. Bioaccumulative potential**
No additional information available

**12.4. Mobility in soil**
No additional information available

**12.5. Results of PBT and vPvB assessment**
No additional information available

**12.6. Other adverse effects**
No additional information available

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**
Product/Packaging disposal recommendations : Incinerate. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials : Avoid release to the environment.

**SECTION 14: Transport information**

**14.1. UN number**
- UN-No. (ADR) : 2810
- UN-No. (IATA) : 2810
- UN-No. (IMDG) : 2810

**14.2. UN proper shipping name**
- Proper Shipping Name (ADR) : TOXIC LIQUID, ORGANIC, N.O.S.
- Proper Shipping Name (IATA) : TOXIC LIQUID, ORGANIC, N.O.S.
- Proper Shipping Name (IMDG) : TOXIC LIQUID, ORGANIC, N.O.S.
- Transport document description (ADR) : UN 2810 TOXIC LIQUID, ORGANIC, N.O.S., 6.1, III, (E)

**14.3. Transport hazard class(es)**
- Class (ADR) : 6.1
- Class (IATA) : 6
- Class (IMDG) : 6.1
- Danger labels (ADR) : 6.1

Division (IATA) : 6.1
BIS(TRIETHOXYSILYL)METHANE
Safety Data Sheet

| Hazard labels (IATA) | : 6.1 |
| Danger labels (IMDG) | : 6.1 |

14.4. Packing group
Packing group (ADR) : III
Packing group (IATA) : III
Packing group (IMDG) : III

14.5. Environmental hazards
Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport
Hazard identification number (Kemler No.) : 60
Classification code (ADR) : T1
Orange plates : 60 2810

Special provisions (ADR) : 274, 614
Transport category (ADR) : 2
Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 5l
Excepted quantities (ADR) : E1
EAC code : 2X
APP code : B

14.6.2. Transport by sea
Special provisions (IMDG) : 223, 274
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-A
Stowage category (IMDG) : A
Stowage and segregation (IMDG) : Clear of living quarters.
Properties and observations (IMDG) : Toxic if swallowed, by skin contact or by inhalation.

14.6.3. Air transport
CAO packing instructions (IATA) : 663
CAO max net quantity (IATA) : 220L
PCA packing instructions (IATA) : 655
PCA Limited quantities (IATA) : Y642
PCA limited quantity max net quantity (IATA) : 2L
PCA max net quantity (IATA) : 60L
PCA Excepted quantities (IATA) : E1
Special provisions (IATA) : A3, A4, A137
ERG code (IATA) : 6L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable
SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
BIS(TRIETHOXYSYLYL)METHANE is not on the REACH Candidate List
BIS(TRIETHOXYSYLYL)METHANE is not on the REACH Annex XIV List

% Volatiles : < 5 %

15.1.2. National regulations

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands
SZW-list van kankerverwekkende stoffen : The substance is not listed
SZW-list van mutagene stoffen : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark
Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

<table>
<thead>
<tr>
<th>Substance</th>
<th>TSCA Exemption/Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS(TRIETHOXYSYLYL)METHANE (18418-72-9)</td>
<td>Low Volume Exemption in accordance with 40 CFR 723.50(c)(1).</td>
</tr>
<tr>
<td>Bis(triethoxysilyl) methane (18418-72-9)</td>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:
Added acute toxicity (dermal) data and reclassified. Added acute toxicity (oral and dermal) data to section 11. Applied changes to section 4. Removed ethanol % from section 3.

Abbreviations and acronyms: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 3 (Oral)</th>
<th>Acute toxicity (oral), Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Dermal)</td>
<td>Acute toxicity (dermal), Category 4</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
</tbody>
</table>
### BIS(TRIETHOXYSILYL)METHANE
**Safety Data Sheet**

- **H312**  Harmful in contact with skin
- **H319**  Causes serious eye irritation

Prepared by safety and environmental affairs.

**SDS EU (REACH Annex II) - Custom**

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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